

KEYNOTE TALK

Tuesday, November 18, 2025 at 9:00 am

AI and Biodiversity

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Abstract: Biodiversity is vital to sustainable development, public health, and ecosystem stability, and we are currently witnessing an unprecedented loss of biodiversity. To better understand and hopefully mitigate this loss, networks of ground-level sensors, satellites, drones, and community scientists are deployed to collect natural-world data at unprecedented scales. There is valuable scientific information stored in these raw data, the vast majority of which are as-yet inaccessible due to the time and resources needed to process the data by small groups of relevant human experts. AI is crucial to facilitate efficient extraction of scientific insights from quickly growing repositories of natural world imagery, and I will present several novel, application-driven innovations in AI which help realize the goal of global-scale, near-real-time biodiversity monitoring.



Speaker Bio-Sketch: Dr. Sara Beery is the Homer A. Burnell Career Development Professor in the MIT Faculty of Artificial Intelligence and Decision-Making. She received her PhD in Computing and Mathematical Sciences at Caltech, where she was advised by Pietro Perona. Her research focuses on building computer vision methods that enable global-scale environmental and biodiversity monitoring across data modalities, tackling real-world challenges including geospatial and temporal domain shift, learning from imperfect data, fine-grained categories, and long-tailed distributions. Her work has been recognized with a Schmidt Sciences AI2050 Early Career Fellowship, an NSF CAREER Grant, the Amori Doctoral Prize, an Amazon AI for Science Fellowship, a PIMCO Data Science Fellowship, and an NSF GRFP.